

# PATENT ABSTRACTS OF JAPAN

(11)Publication number : 04-086155

(43)Date of publication of application : 18.03.1992

(51)Int.Cl.

H04N 1/04

G06F 15/64

H04N 1/028

(21)Application number : 02-201969

(71)Applicant : HITACHI LTD

(22)Date of filing : 30.07.1990

(72)Inventor : KANEKO TOSHITERU

ANDO HISASHI

KITA YOSHIKI

SATO YOSHIO

HIRATSUKA SHIGETOSHI

KIZAWA KENICHI

ABE YOSHIO

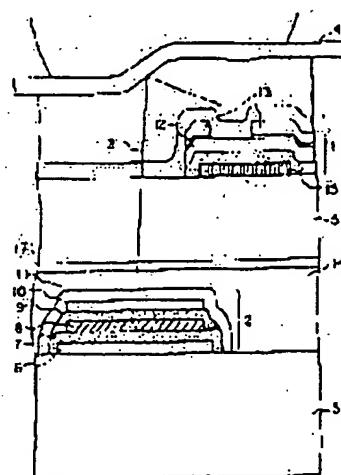
NAKAYAMA TAKAHIRO

## (54) IMAGE READER AND COMMUNICATION TERMINAL USING THIS READER

### (57)Abstract:

PURPOSE: To obtain a uniform illuminance on a light receiving element to reduce the thickness of a read sensor by forming a light emitting element and the light receiving element of a linear light source unified contact read sensor with linear EL light emission sources and arranging them on substrates.

CONSTITUTION: A light source part 2 consists of a back electrode 6, a first insulating layer 7, an EL emission source 8, a second insulating layer 9, and a transparent electrode 10 formed on a substrate 5, and they are covered with a protective layer 11. A light reception part 1 consists of a photoelectric conversion layer 12, an electrode 13, and a



protective layer 11. The substrate 5 of the light reception part and that of the light source part are sealed with a humidity resisting resin (sealing material) so that they are not exposed to moisture in the air. In this case, they are so adhered that the maximum luminance part of the EL emission source is just under an incidence window of the light reception part 1. A light shielding film 15 is provided under the photoelectric conversion part of the light reception part 1. An original 4 is irradiated with illuminating light 3 from the light source part 2, and the reflected light reflecting the contrast of the original is detected by the light reception part 1. Since the light source part 2 is placed on the rear face of the light reception part 1, a special optical system is unnecessary to simplify the structure.

---

#### LEGAL STATUS

[Date of request for examination]

[Date of sending the examiner's decision of rejection]

[Kind of final disposal of application other than the examiner's decision of rejection or application converted registration]

[Date of final disposal for application]

[Patent number]

[Date of registration]

[Number of appeal against examiner's decision of rejection]

[Date of requesting appeal against examiner's decision of rejection]

[Date of extinction of right]

# PATENT ABSTRACTS OF JAPAN

(11)Publication number: 61-027675

(43)Date of publication of application: 07.02.1986

(51)Int.Cl. H01L 27/14  
G03B 42/02  
H04N 1/028  
H04N 5/335

(21)Application number: 59-148440 (71)Applicant: FUJI PHOTO FILM CO LTD

(22)Date of filing: 17.07.1984 (72)Inventor: HOSOI YUICHI

KAWAJIRI KAZUHIRO

SUNAKAWA HIROSHI

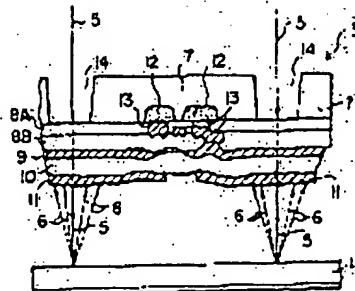
NOZAKI NOBUHARU

## (54) SEMICONDUCTOR PHOTODETECTOR

### (57)Abstract:

PURPOSE: To allow a photodetector to be manufactured with easiness and low cost by forming a through hole on a substrate for laminating transparent solid optoelectro transducers so as to allow light for excitation to be irradiated on a sheet of storage fluorescent substance from the back of the substrate.

CONSTITUTION: A photoconductor is used as a line sensor 3. A transparent electrode layer 9, a photoconductive layer 10 and a transparent electrode layer 11 are laminated on a light screening substrate 7 via transparent insulating layers 8A and 8B. The transparent electrode 11 is divided for each picture element to form a train of a plurality of solid optoelectro transducers corresponding to the picture elements. A through hole 14 having its section close to a circle is formed for each solid optoelectro transducer on the light shielding substrate 7. Light for excitation is irradiated on a sheet 1 of storage fluorescent



substance via the line sensor 3. A stimulation light 6 is received by each solid optoelectro transducer of the line sensor 3 to read out picture information by radiant rays, which has been stored and recorded in the sheet 1. The substrate 7 does not need to be transparent and a light shielding layer having a small hole or a slit does not need to be provided in order to obtain a desired beam diameter.

---

#### LEGAL STATUS

[Date of request for examination]

[Date of sending the examiner's decision of rejection]

[Kind of final disposal of application other than the examiner's decision of rejection or application converted registration]

[Date of final disposal for application]

[Patent number]

[Date of registration]

[Number of appeal against examiner's decision of rejection]

[Date of requesting appeal against examiner's decision of rejection]

[Date of extinction of right]